Agenda Date: 5/16/06
Agenda Item: 2D

STATE OF NEW JERSEY
Board of Public Utilities
Two Gateway Center
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ENERGY

IN THE MATTER OF THE PROPOSED AIR CONDITIONING/APPLIANCE CYCLING PROGRAM CHANGES FOR 2006 FOR PUBLIC SERVICE ELECTRIC & GAS COMPANY, JERSEY CENTRAL POWER & LIGHT COMPANY, AND ATLANTIC CITY ELECTRIC COMPANY)

DECISION AND ORDER ADOPTING SETTLEMENT

DOCKET NO. EO06040297

(SERVICE LIST ATTACHED)

BY THE BOARD[1]

This matter concerns a proposed Stipulation of Settlement ("Settlement"), which identifies changes to the existing Air Conditioning/Appliance Cycling Programs ("AC Cycling Programs") for 2006. The Settlement was executed by Public Service Electric & Gas ("PSE&G"), Jersey Central Power & Light ("JCP&L"), Atlantic City Electric Company ("ACE"), the Division of the Ratepayer Advocate ("RPA"), and the Board's Staff ("Staff") (collectively "the parties") on or about May 4, 2006. The program changes and procedural and planning guidelines set forth in the Settlement are intended for the purpose of establishing a reasonable basis for continuing the existing programs, until the parties and the Board can complete the necessary evaluation and determine the future direction of the AC Cycling Programs in a more comprehensive and cost-effective manner.

BACKGROUND AND PROCEDURAL HISTORY

PSE&G, JCP&L, and ACE (collectively, the "EDCs") operate voluntary customer demand response programs to reduce load during summer electricity peak use periods. PSE&G's *Cool Customer Program*, JCP&L's *PowerPlus Savers Program* and ACE's *Peak Savers Club Program* are primarily targeted to residential customers, although ACE's program also includes commercial customers. These AC Cycling Programs reduce electricity use by cycling specific appliances of participating customers, primarily central air conditioning units, but some water heaters and heat pumps, and a few electric motors. The programs were created in response to the Demand Side Management ("DSM") Resource Plan regulations (*N.J.A.C.* 14:12-1.1 *et.seq.*).

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[1] Commissioner Frederick F. Butler recused himself on this matter due to a potential conflict of interest.

On October 9, 1991, the Board adopted the DSM regulations, which provided a framework for utilities to invest in energy conservation and efficiency programs. Subsequent to the adoption of these rules, beginning in 1992, utility-filed DSM plans included appliance cycling programs (BPU Docket Nos. EE92020103, EE98060402). In those orders, the Board found that demand-side management is an important aspect of the State's energy future, and that such programs and measures offer an economic and environmentally sound alternative to building and operating new generation facilities.

By Order dated October 1, 1999 (BPU Docket No. EE98060402), the Board approved the current terms of PSE&G's AC Cycling Program, including a $6.00 monthly incentive for each of the four summer months of June through September. However, the utility was ordered to increase the monthly incentive to the prior amount of $8.00, if the customer participation level dropped below 90% of the then-current customer participation level. Subsequently, PSE&G requested that the incentive be raised in advance of reaching the 90% participation level, based upon the initial adverse customer reaction to the lower $6.00 incentive. By Order dated May 25, 2000, in BPU Docket No. EE98060402, the Board denied PSE&G's request to increase the monthly incentive from $6.00 to its former level of $8.00. As part of that Order, the Board directed the Company to provide a monthly program status report, to allow the Board to adjust the incentive level to ensure a satisfactory level of customer participation.

Currently, the JCP&L program and the PSE&G program pay $6.00 for each billing month from June through September for a total of $24.00 annually, and ACE pays $1.50 for each billing month from June through September, and an additional $1.50 per cycling event for each controlled appliance for residential customers and $1.50 per kilowatt hour during the cycling event for each controlled appliance of the commercial customers. Some customers have more than one controlled appliance, such as a central air conditioning unit and a water heater, and therefore receive multiple incentive payments.

By Order dated March 9, 2001, (BPU Docket Nos. EX99050347, EO99050348, EO99050349, EO99050350, EO99050351, GO99050352, GO99050353, GO99050354) the Board adopted the current AC Cycling Programs for ACE, PSE&G and JCP&L, as part of each EDCs' energy efficiency portfolio. These AC Cycling Programs were developed and funded from the Clean Energy Program component of the Societal Benefits Charge ("SBC"), paid by all EDC customers. The AC Cycling Programs' costs were removed from the SBC, beginning June 1, 2004, and became a responsibility of the Basic Generation Service ("BGS") procurement process by Order, dated October 22, 2003 (BPU Docket No. EO03050394). The Board reasoned that there was a direct connection between the effectiveness of these programs and the cost of BGS supply, and therefore, the AC Cycling Programs should fall under the umbrella of the BGS procurement process and be funded through the auction as a per kWh charge, known as the System Control Charge ("SCC"). The charge is applied to all EDC customers, because the benefits flow to all customer classes by reducing the need for suppliers to purchase electricity at times of peak demand when prices are high.

In the October 22, 2003 Order, the Board directed the EDCs to work with Staff, on a "best efforts" basis, to effectuate the development and implementation of a plan to expand the current AC Cycling Programs in a cost-effective manner.

Currently, the AC Cycling Programs include nearly 240,000 remotely controlled appliances statewide. The PSE&G Program includes approximately 125,000 customers with 137,770 control switches; the JCP&L Program includes approximately 71,000 customers, with 79,000 load control devices; and ACE's Program includes approximately 18,000 residential and 500 commercial customers.

All three AC Cycling Programs are currently in maintenance mode, which means that new customers are not being recruited. An issue of concern is the age of the existing program infrastructure, and the fact that recent samplings of technology operability have indicated a high rate of disconnections or malfunctions of the cycling switches. The type of technology in place varies with each program, but most of the infrastructure is over 10 years old and beyond its expected life span.

Improvement of the AC Cycling Programs and expansion to additional customers requires a comprehensive evaluation of newer technologies and program designs, prior to any decisions that are likely to involve significant economic investment. Consequently, the three EDCs have worked collaboratively over the past two years, by sharing data and information on previous and current pilots, programs, and activities; engaging in joint research, including focus groups composed of participating program customers; and working with representatives from Lawrence Berkeley National Laboratories on identifying the load impact obtained from the AC Cycling Programs.

The attached Settlement furthers the collaboration of the EDCs in the implementation of the AC Cycling Programs and moves the programs toward greater operational consistency, which should achieve the overarching objective to reduce customer energy consumption during delivery emergencies and periods of great demand and high electricity prices in the New Jersey market.

SETTLEMENT SUMMARY:

The proposed Settlement sets forth changes and guidelines to the three EDCs' AC Cycling Programs for the 2006 summer season, agreed to by the parties. The purpose of the Settlement is to establish a reasonable basis for continuing the programs in the short term, until a more comprehensive analysis of possible program designs and technology options can be completed to inform the development of longer-term plans. The EDCs will continue to work with the RPA and Staff to develop options for the future direction of the programs, and will file plans with the Board no later than March 1, 2007.

The Settlement contains the following provisions agreed to by the parties:

1 The EDCs shall move to a fixed/variable customer incentive credit payment structure.

   a. PSE&G and JCP&L will pay a fixed $16.00 credit annually to program participants ($4.00 per month from June through September), along with a $1.00 payment per each curtailment event, which will be totaled and credited to participants at the end of the summer cycling season.
   b. ACE will continue its existing fixed/variable incentive credit structure of $1.50 per month for each program participant from June through September, and an additional $1.50 for each curtailment event, totaled and credited at the end of the summer cycling season.
   c. PSE&G and JCP&L will make the incentive payment change beginning the billing month of July 2006, to allow sufficient time for the Companies to make the necessary customer system programming changes.

2. The provisions of the May 25, 2000 Order in BPU Docket No. EE98060402, which orders PSE&G to provide a monthly status report to the Board on customer participation in the AC Cycling Program, and directs the incentive payment to be increased to $8.00 per month to ensure a 90% customer participation level, shall no longer apply.

3. Water heaters shall be dropped as an appliance eligible for customer incentives in the PSE&G and JCP&L AC Cycling Programs, effective the billing month of July 2006.

    a. PSE&G and JCP&L shall notify program participants by appropriate letter that the Companies will suspend use of the water heater switches and discontinue the customer incentives beginning on the aforementioned dates.
    b. ACE shall continue the water heater component of its AC Cycling Program, but the Company agrees to evaluate whether its existing water heater cycling should continue past the 2006 summer or whether a new water heater cycling program, using newer technology and relying on a consistent implementation plan aligned with that of PSE&G and JCP&L, would be more effective, should PSE&G and JCP&L include water heater cycling as part of new demand response programs.
    c. The EDCs shall consider whether to include water heater cycling, using newer technology, as part of the new demand response program currently under consideration.

4. The following cycling curtailment guidelines, relied upon in 2005 by PSE&G and JCP&L, will be used again in 2006, and ACE will use these same guidelines:

    a. PJM emergencies;
    b. Local distribution emergencies; or
    c. A combination of high locational marginal prices ("LMPs") of at least a $250/MWh forecasted in the day-ahead PJM market (average value over the period between 2:00 P.M. and 4:00 P.M.) and a high weighted temperature humidity index ("WTHI") of at least 80.

5. The EDCs will continue to work with Staff and the RPA and submit plans to the Board no later than March 1, 2007, recommending future direction of the programs.

DISCUSSION AND FINDINGS:

The Board strongly believes in the importance of encouraging and enabling customer demand response to help reduce electricity price spikes and lower customers' energy bills. In that context, the provisions of the attached Settlement establish a reasonable basis for continuing the existing programs in the short term, until the parties and the Board can complete a more comprehensive evaluation on which to base the future direction of the demand response programs. The short-term nature of the Settlement, specifically the provision requiring the submission of plans recommending the future direction of the programs no later than March 1, 2007, is also reasonable and appropriate, given the limited options provided by the existing infrastructure supporting the AC Cycling Programs, its advanced age and increasing high rate of inoperability.

Most of the existing equipment is over 10 years old. According to information obtained by the parties, recent sample inspections by PSE&G and JCP&L have found switches to be functionally inoperable or disconnected in over 50 percent of the central air conditioning units enrolled in the program. The Board notes that the appliance cycling programs were originally designed to last 10 years. Therefore, it is appropriate to study the greater functionality, ease of use and associated costs of newer, more advanced technology and communications networks, as well as the designs of successful demand response programs in other states, before committing additional ratepayer funds to replace inoperable equipment with similar devices or to expand the number of participants at this time. However, the Board agrees that it is prudent to maintain the existing customer enrollment as a participant base for future improved demand response programs.

The changes and guidelines set forth in the Settlement are intended to: (1) improve the AC Cycling Programs during summer 2006; (2) use ratepayer funds in a cost-effective manner; and (3) achieve the utmost effectiveness of the programs in addressing electricity price spikes. The cycling criteria are designed to operate the programs more uniformly across the state, so as to maximize the effect from the aggregated customers' demand response on high electricity prices during periods of peak usage. The Board **HEREBY FINDS** reasonable the agreed-upon guidelines as to when cycling events will be called by the EDCs, based upon delivery emergencies or high zonal LMPs forecasted in the day-ahead PJM energy market, combined with high temperatures and humidity. The Board believes that demand response could help reduce, or at least stabilize electricity prices, if effectuated on hot summer afternoons when electricity prices increase to at least $250/MWh.

The Board concurs with the modifications to the customer incentive structure, to include a fixed and variable monthly credit, which more directly align the programs' credit payments to the number of cycling events that occur each year. PSE&G and JCP&L will pay a fixed $4.00 credit per month from June through September, and an additional $1.00 per curtailment event. ACE will continue its existing fixed/variable incentive structure of $1.50 per month from June through September, and an additional $1.50 per curtailment event for each controlled appliance for residential customers and $1.50 per kilowatt hour for the controlled appliances of commercial customers during the cycling event. The Board does not consider this to be inconsistent with or a modification of the Settlement agreed to by the parties, because the Settlement stipulates the continuation of ACE's existing incentive payments.

To maintain existing enrollment, it is reasonable that customers receive an incentive for each time that they are called upon to reduce use during times of high electricity demand. The fixed monthly credit payment during the four months of program operation ensures that participants receive a reasonable incentive, despite any lack of PJM and local distribution emergencies during a particular summer, or the variability of temperatures, humidity and LMPs that trigger the air conditioning cycling. The fixed monthly incentive credit is in keeping with the nature of the demand response program as an insurance policy to help mitigate deteriorating conditions during electricity delivery emergencies, as well as during times of high electricity prices. The Board notes that the adoption of the fixed and variable form of credit payments moves the three AC Cycling Programs towards greater operational uniformity.

Because the Settlement modifies customer incentive levels, the Board recognizes that the Orders applicable to PSE&G, dated October 1, 1999 in BPU Docket No. EE98060402 and May 25, 2000 in BPU Docket No. EE98060402, directing an increase in credit payments based upon a reduction in customer participation below 90 percent of the then-existing participation levels, should no longer apply to PSE&G. In this regard, it should also be noted that these Orders apply to PSE&G only. Therefore, ending their application to PSE&G also moves the programs toward greater uniformity in operational parameters. Accordingly, the Board **HEREBY ORDERS** that the October 1, 1999 Order in BPU Docket No. EE98060402, which directs PSE&G to restore payment levels to $8.00 if there is a reduction in participation below 90% of the then-existing customer participation level, shall no longer apply. However, as the Board continues to be interested in participation levels and, pursuant to these prior Board Orders, PSE&G is already tracking this information, the Board **FURTHER ORDERS** that PSE&G continue to provide information to Board Staff, on a monthly basis, regarding the status of its AC Cycling Program in accordance with the May 25, 2000 Order.

The Board agrees that electric water heaters should be dropped from the PSE&G and JCP&L programs, based on the age of the water heater control switches compared to the expected 10-year useful life-span of the typical water heater. The Board is concerned that perhaps only a small percentage of the load control switches remain connected and functionally operational, and under such conditions, it is prudent to discontinue credit incentives until a water heater component can be evaluated within a comprehensive plan for future demand response programs. Furthermore, PSE&G and JCP&L have limited numbers of water heaters enrolled in the programs (approximately 2,500 total), and therefore those water heaters would have only a negligible impact on high LMPs.

ACE, however, has a much higher number of water heater cycling switches enrolled in the AC Cycling Program (approximately 8,700). More than 500 of the switches are installed on commercial water heaters, which offer significantly more demand reduction potential per controlled water heater compared to the residential installations in the PSE&G and JCP&L programs. Furthermore, a number of the ACE cycling switches are installed in a manner that controls both electric water heaters and central air conditioning units. For the aforementioned reasons, the Board agrees that the water heater switches in the ACE program should remain active during the 2006 summer cycling season.

The Board notes that the Settlement commits the EDCs to work with Staff and the RPA to develop plans, to be filed no later than March 1, 2007, that make recommendations as to the nature and scale of future demand response programs. We encourage the parties to provide the plans as soon as it is feasible to do so, to allow the Board sufficient time to consider any recommendations for implementation in 2007. Furthermore, we encourage the parties to consider the existing constraints in the transmission and distribution systems in this State, and include suggestions in such plans, addressing how future demand response programs can help mitigate the higher electricity prices caused by the delivery congestion.

In summary, the Board has reviewed the attached Settlement of the Parties and for all the foregoing reasons, **HEREBY FINDS** it to be reasonable and in the public interest. Accordingly, the Board **HEREBY ADOPTS** the Settlement in its entirety, incorporating the terms and conditions thereof into this Order as if they were set forth at length herein. The Board **HEREBY APPROVES** the program guidelines for the 2006 AC Cycling season, including the incentive structure and curtailment criteria outlined in the Settlement. Additionally, the Board **HEREBY FINDS** that payment of customer incentives is prudent.

As detailed in the Settlement, the Board **HEREBY ORDERS** the discontinuation of the water heater cycling component of PSE&G's and JCP&L's programs. The Board **FURTHER ORDERS** that the prior requirement for PSE&G to increase the monthly incentive from $6.00 to $8.00, if the participation rate falls below 90 percent, be eliminated. PSE&G is **HEREBY DIRECTED** to continue monitoring customer participation levels and submitting monthly reports to Board Staff on the status of its AC Cycling Program. Continuation of this reporting requirement constitutes a clarification of the Settlement. The Board does not consider this to be inconsistent with or a modification of the Settlement agreed to by the parties.

The EDCs are **HEREBY DIRECTED** to continue the AC Cycling Programs, under the guidelines and parameters discussed in the Settlement, for the 2006 season. The Board **FURTHER ORDERS** the EDCs to continue to file annual status reports for the existing AC Cycling Programs by January 31st of each year, providing all pertinent information related to the operation of the programs during the previous year. Consistent with the Board's prior orders with respect to these issues, the EDCs costs for the programs will continue to be recovered through the System Control Charge, if found to be prudent and reasonable.

The Board **FURTHER DIRECTS** PSE&G, JCP&L, and ACE to continue to work with Staff and the Division of the Ratepayer Advocate to evaluate the existing programs and to submit Plans as soon as feasible, but no later than March 1, 2007, recommending the future direction of the AC Cycling Programs for Board consideration.

DATED: 5/23/06

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